

rudimentary as in the plants collected by Palmer. So that practically there remain only two prominent points of distinction between *Funaria Californica* and *Entosthodon Bolanderi*: the *lid*, being convex in the former and mamillate in the latter; and the *costa*, passing to the apex in the former, and only to about the middle in the latter.

The color of the peristome, described as "pale, whitish, granulose," is found in both the specimens of Bolander and those recently collected by Palmer, to be in fact *red, granulose, longitudinally striate*, and distinctly articulate. This discrepancy is quite likely due to the difference in maturity of the material examined. The calyptra, referred to in a note under the species in the Manual of N. A. Mosses as "five lobed at base and rather mitrate," is in Dr. Palmer's material usually split open down one side, and at base is more often three or four lobed, this lobing being rather irregular. The calyptra is thus on the whole as in *Funaria*. This, and especially the presence of an *inner* peristome, makes necessary the transfer of this species of *Entosthodon* to *Funaria*; it should be called *Funaria Bolanderi* (Lesq.).—JOHN M. HOLZINGER, *Department of Agriculture, Washington, D. C.*

A probable new category of carnivorous plants.—The fact that members of the genus *Polyporus* are in the habit of catching and digesting small insects is not generally known. At least after a careful examination of such literature as happens to be at hand, the writer is unable to discover any reference to what is a distinct and curious phenomenon in the life history of some of these large and interesting fungi. In *Polyporus applanatus* the method of catching and devouring the insects has been studied by me, and a brief description may be in place at the present time. Whether or not the habit alluded to has been described by other students I cannot yet be sure, but it is sufficiently unknown in American writings to permit of attention in these pages.

*Polyporus applanatus* (Pers.) Wallr. is common around Lake Minnetonka, where it occurs on its ordinary hosts, and also on *Tilia Americana* in considerable abundance. The large size— one-third of a meter in diameter— and the cinnamon-brown zonate upper surface, together with the light under surface and the minute pores make it a conspicuous object in the woods and swamps. This plant seems to exert an attractive influence over various species of small flies— especially when partly grown. The flies may be seen assembling in swarms upon the under surface of the plant, where they walk about and appear to feed upon the soft substance of the hymenophore. Mosquitoes and gnats, together with larger flies, may be found upon the under

surface in large numbers at certain times of the day, notably in the evening or towards the middle of the afternoon. I have not been able to discover any secretion that might be attractive to the insects given off by the plant, but there may be such.

In walking over the minutely perforated surface an occasional fly may be seen to get its feet caught between the clefts and is then unable to extricate itself. It shortly dies and lies flat upon the hymenophore surface. Whether the death is due to poisoning or simply to fatigue, I have not determined. At any rate there is very promptly sent up around the body of the insect a mycelial growth from the interior of the pores of the plant, and in a few hours the insect is completely covered by the fungus filaments. For a time it may be seen as a hummock or elevation on the hymenophore, but shortly, through the absorption of its substance into the tissue of the fungus, it disappears as an elevated area and is discernable solely through its imparting a slightly lighter color to the portion of the hymenium lying around it. I have in my collection one of these *Polyporus* fruits, about six inches in diameter, with seventeen small flies captured and digested—some of them so completely destroyed that there is scarcely more than a vague stain left to mark the spot where they lay, and others of a whitish hue and lying in high relief on the tinted lower surface. In the case of those that are thoroughly digested the plant produces pores afresh through the remains of their bodies, and the trace of their original presence becomes almost obliterated. Those that are partially digested are not penetrated by the pores but the mycelial covering is of a solid texture. It is quite like that of the border of the hymenophore. Nor do the penetrating pores appear until the flies are reduced almost to the level of the general hymenium surface.

This phenomenon is an interesting one, for it shows how a structure devised for another end may be devoted to an accessory line of work, and may in time come to acquire an accessory function. The *Polyporus* can not be conceived to derive very marked benefit from the small substance that it is able to obtain from the unfortunate flies, but it is easy to see how such a practice if persisted in might develop into a highly important nutritive habit. It is unquestionably true that the plant derives some nutriment from these flies, for where they fall and raise the level of the hymenium there are more pores produced than at other points of similar size. This would indicate that the habit of fly-catching which is practiced by the *Polyporus applanatus* might develop into something of real importance to the species.

I shall be glad to hear from others who have noticed this habit in *Polyporineæ*.—CONWAY MACMILLAN, *University of Minnesota*.